

A perspective on potential policy trend developments the natural gas industry could see

By Steve Goreham

For more than 20 years, industries producing natural gas and other hydrocarbon fuels have operated under the shadow of climate change. In an effort to stabilize the climate, world governments have enacted thousands of regulations designed to suppress the use of hydrocarbon energy and instead promote the use of renewable energy. But

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The theory of man-made climate change asserts that human industries are causing dangerous global warming. This global warming is seen as the process with which the Earth's surface temperature is warming due to carbon dioxide and other greenhouse gases emitted from modern industrial processes. Leading scientific institutions warn that use of hydrocarbon energy—coal, natural gas, and oil—must be reduced if catastrophic climate changes are to be avoided. But this information is not entirely accurate.

Today, United States government policy encourages renewable energy and attempts to curtail the use of

hydrocarbon energy. Tax credits for wind, solar, and other renewables, subsidies and mandates for biofuel production, and billions in grants and loan guarantees for renewable companies are part of this framework. The Environmental Protection Agency (EPA) has imposed measures restricting greenhouse gas emissions from power plants, refineries, and energy intensive industries. The Energy Independence



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and Security Act of 2007 included The Fossil Fuel Elimination Rule, designed to end the use of hydrocarbon fuels in federal buildings.

Renewable Portfolio Standard (RPS) laws have been enacted in 29 states, and goals for renewables have been established in another eight states. RPS laws require utilities to buy an increasing percentage of energy from renewable sources or be fined. Renewable

energy projects are typically exempt from sales taxes, property taxes, and corporate excise taxes, in an effort to reduce emissions.

Europe supports even more extensive climate regulations, including a \$100 billion carbon trading market and government subsidized feed-in tariffs for wind and solar. Governments, corporations and universities across the world continue efforts to cut carbon

dioxide emissions and boost renewable energy use.

At the same time, the U.S. oil and gas industry has introduced the world to a hydrocarbon revolution. Hydraulic fracturing and horizontal drilling have unlocked vast quantities of natural gas and crude oil from shale, without the need for government subsidies. Peak

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Natural Gas Well in Louisiana
Photo by Daniel Foster

oil is dead. In response, environmental groups worry that abundant natural gas and petroleum will halt the adoption of renewable energy. Thus, unwarranted opposition to hydraulic fracturing remains strong. Bans or moratoriums on hydraulic fracturing are in place in France, Bulgaria, Germany, and many counties and communities in the U.S.

Still, a major change is coming for climate and energy regulation. Over the next decades, both public opinion and government support for measures to increase renewables and decrease fuels like natural gas will likely erode for two big reasons.

First, both the economics and the performance of renewable energy sources are poor. For most applications, wind, solar, and biofuels remain significantly more expensive than hydrocarbon alternatives. Without low cost electricity storage, wind and solar are intermittent, requiring coal, natural gas, or other conventional sources to maintain continuity of electricity supply.

Nations across the world are already stepping back from renewable subsidies and mandates due to the high cost and negative impact on the electrical grid. Generous feed-in tariffs for wind and solar accumulated subsidy liabilities of €29 billion (\$40 billion) in Spain and over

€100 billion (\$137 billion) in Germany. These two countries, seven other European nations, and Australia recently slashed renewable incentives, no longer able to afford the budget busting cost of subsidies.

Since 2005, European electricity prices for industry have risen 40 percent, driven by renewable subsidies paid by electricity rate payers. Denmark, Germany, and Spain lead the world in energy sourced from renewables, but also have the highest electric rates. In contrast, U.S. electricity prices have remained mostly stable, with utilities adopting low cost natural gas fuel. Today, European electricity prices are more than double U.S. prices and viewed as uncompetitive by industry experts.

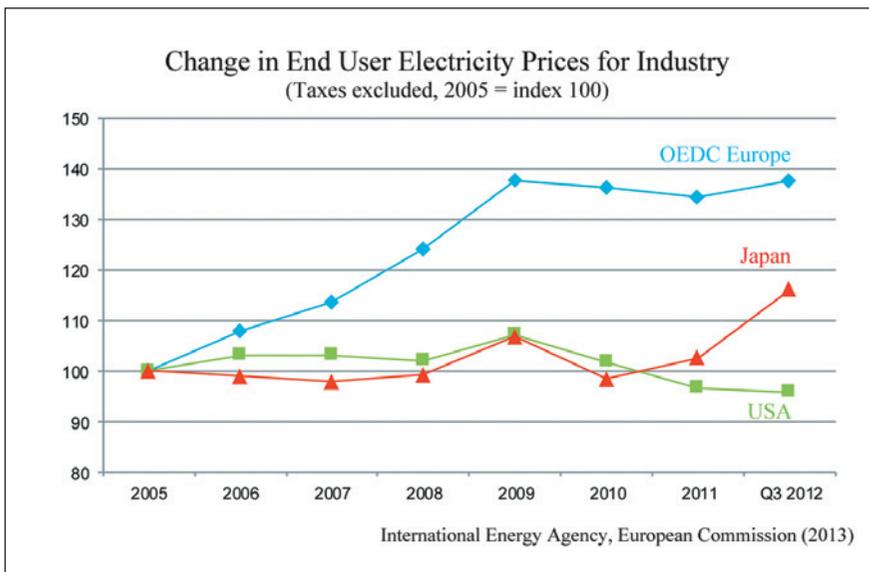
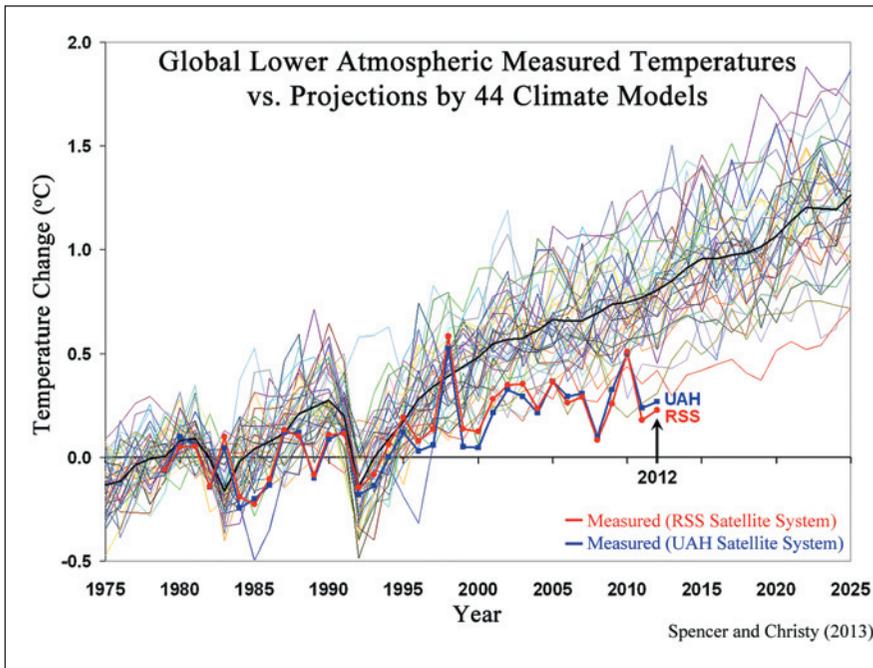
Regulations requiring first priority for renewable-generated electricity are destabilizing the electrical systems of Germany and the United Kingdom. Natural gas and coal facilities must cycle up and down in deference to large amounts of sporadic wind-generated electricity. With high natural gas prices in Europe, gas-fired plants are currently not cost-effective. Utility executives warn of a growing risk of blackouts as capacity margin shrinks in Britain and Germany.

In the fall of 2013, newly elected Prime Minister Tony Abbott introduced

a bill to repeal Australia's carbon tax. Earlier in 2013, the European Commission failed to pass measures to prop up the price of carbon credits on the European Emissions Trading System. Economic reality simply does not justify the increased use of renewables.

The second reason for the upcoming shift has an even greater impact. Mounting evidence shows that the science of man-made warming is incorrect. For 17 years, global surface temperatures have stabilized, confounding the climate models. All 44 of the world's top climate models were thus incorrect in predicting a rapid rise in global temperatures.

Rather than warming, Earth may be in for an extended period of global cooling. The Pacific Decadal Oscillation, a 60-year temperature cycle in the Pacific Ocean, moved into a cool phase around 2005. The big temperature cycle in the Atlantic, the Atlantic Multidecadal Oscillation, is currently in a warm phase, but expected to move to its cool phase in the next 10 years. In addition, the level of solar activity (sunspots and flares) is the lowest in over 100 years. A growing number of scientists believe that the combination of cool ocean cycles and lower solar activity portends several decades of cool temperatures.



Climate change appears to be dominated by natural factors, such as ocean cycles, weather and clouds, and solar effects. It's clear the climate models have overestimated the role of humans in global warming. Thousands of climate regulations in hundreds of nations, when summed together, are unlikely to have a measureable effect on Earth's climate.

As this information is more widely understood, the next 20 years may be characterized by a change in the level

of energy and climate regulations. And conceivably carbon taxes and cap-and-trade regimes will be repealed, while RPSs will be relaxed or at least not expanded. Governments shall again focus on solving real problems, rather than a fight against a very uncertain climate change. Corporations shall once again emphasize service to the customer, leadership, product price/performance, maximizing returns to investors, and reducing real

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environmental pollutants, without the current overemphasis on carbon dioxide emissions.

For the natural gas industry, this reversal will be a welcome development. Demand for energy sources will again be based on cost, performance, availability, and real environmental impact, rather than undetermined climate change concerns. Opposition to unconventional gas may exist, but hydraulic fracturing will likely be adopted by the major nations of the world as a path to centuries of clean and cost-effective energy.

Natural gas is an ideal fuel to power modern economies. Gas burns clean, free of nitrous oxides, sulfur oxides, and other real pollutants in humanity's control. Natural gas is versatile, with proven large-scale application in residences, factories, and utilities. It is also abundant, with globally over 200 years of technically proven reserves, according to the U.S. Department of Energy. Natural gas will continue to grow in strength as a clean, dominant energy source of the 21st century. 💧

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Learn more about the topic of climate change in the next issue of THE SOURCE when we feature an opinion article from a different organization.